REMARKS

The Final Office Action of May 3, 2005 has been carefully reviewed and all matters presented in the office action are addressed herein.

As a first point, Applicant notes that claim 1 has been amended herein, with all deletions correctly shown in strikethrough. More specifically, formula (XV) and formula (XXIX) have been deleted from claim 1.

In the office action, claims 10, 11, 16-19 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Hall (U.S. Patent No. 798). This rejection is respectfully traversed.

The office action asserts that the "relatively low molecular weight resins" recited at column 3, lines 22-27 of Hall correspond to the bicyclic orthoesters having unsaturated double bonds which are disclosed in the present application. However, Applicants respectfully note that this interpretation is in conflict with the definition of the term "resin". According to the *McGraw-Hill Dictionary of Scientific and Technical Terms*, a "resin" is a "...solid or semisolid organic product[s]...with no definite melting point, generally of high molecular weight...". A copy of the relevant dictionary page is attached hereto.

It is clear from the definition of a resin that this term would not be considered by one skilled in the art to encompass a monomeric bicyclic orthoester having unsaturated double bonds. For example, such monomers would have a definite melting point, in direct contrast to a resin, which is characterized by the absence of a definite melting point. Thus, in view of the meaning of "resin", the asserted interpretation of the referenced section of Hall is inappropriate.

Instead, column 3, lines 12-27, when looked at in its entirety, would correctly be interpreted as teaching that the known derivatives in the art (at the time of Hall) were

not capable of providing high molecular weight polymers due to chain transfer hydrogens (see lines 12-15 at column 3 of Hall) such that polymerizations of these known derivatives only provided low molecular weight polymers or resins. The Hall derivatives, however, were capable of being polymerized to provide relatively high molecular weight resins (see lines 16-22 of column 3) as well as relatively low molecular weight resins (see lines 16-27 at column 3). Thus, it is clear that the difference between the relatively high molecular weight resins of Hall and the relatively low molecular weight resins of Hall lies in the molecular weight formed during polymerization. However, as the resins are provided by addition polymerization, it is also clear that the unsaturated double bonds are depleted.

Therefore, thermosetting coatings comprising the resins of Hall and crosslinked with polyisocyanates do not comprise compounds having unsatured double bonds. Accordingly, present claim 10 and its dependent claims 11, 16-19, and 24 are novel over Hall.

Claims 1-6, 10-13, 16-20 and 24 are rejected under 35 U.S.C. 102(a) as being anticipated by WO 97/31073 and 35 U.S.C. 102(e) as being anticipated by van den Berg (U.S. Patent No. '329) or van den Berg (U.S. Patent No. '479). This rejection is also respectfully traversed.

The definition of C in claims 1 and 10, as presently amended, do not encompass the compounds and functional groups described in WO 97/31073 and the '329 and '479 patents. The office action explicitly refers to ester groups and epoxy groups mentioned in the definitions of R_1 and R_2. However, these functional groups are not encompassed by the amended definitions of C in claims 1 and 10.

Further, the office action states (see item 7) that the definition of R_1 and R_2 groups in the references causes the claimed subject matter to be encompassed by the references. This, however, is not an appropriate assessment. A genus does not always anticipate a species within that genus (see for example, *In re Meyer*, 599 F.2d.

1026, 1031, 202 USPQ. 175, 179 (CCPA 1979)). The more appropriate question is whether one of ordinary skill "would immediately envisage" the claimed compound from the disclosed genus. *In re Petering*, 301 F.2d, 676, 682, 133 USPQ 275, 280 (CCPA 1962).

The office action specifically references the vinyl ether group according to formula (XII) in present claim 10. WO 97/31073 and the '329 and '479 patents describe that R_1 and R_2 may be alk(en)yl groups (i.e., alkyl groups and/or alkenyl groups) comprising 1 to 30 carbon atoms, and which optionally contain one or more heteroatoms selected from the group of oxygen, nitrogen, sulphur, and phosphorus (see page 3, line 20 to page 4, line 2). However, it does not define where in the alkyl or alkenyl group the optionally present heteroatom should be located. Thus, from this description an untold number of species would be included.

According to formula (XII) of the present claim 10, the functional group is a vinylether (i.e., an oxygen is attached directly to the olefinic double bond). In order to arrive at formula (XII), one skilled in the art would need to make multiple selections from the general teaching of WO 97/31073 and the the '329 and '479 patents:

(i) one would need to select an alkenyl group from the alkyl and alkenyl groups;

(ii) next one would need to choose to include a heteroatom in the alkenyl group;

(iii) one would then need to specifically select oxygen as the heteroatom from the group of oxygen, nitrogen, sulphur, and phosphorous; and

(iv) finally, one would need to attach the oxygen directly to the olefinic double bond of the alkenyl group.

Such a specific selection is not disclosed the cited references and would not be immediately envisioned from the disclosure therein. Accordingly, WO 97/31073 and the the '329 and '479 patents do not anticipate the present claim 10 wherein C is a vinylether group according to formula (XII), nor does WO 97/31073 and the '329 and

'479 patents anticipate the other claimed formula species, none of which is specifically disclosed by the cited reference.

Thus, as set forth above, the subject matter of claims 1, 10, 24 and all dependent claims thereon are believed to be novel over the cited prior art. If an extension of time is required, Applicant herein petitions for such extension of time such that this response is timely. Applicant herein authorizes that any and all charges due be charged to its Deposit Account No. 01-1350.

Respectfully submitted,

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On the cover: Pattern produced from white light by a computer-generated diffraction plate containing 529 square apertures arranged in a 23 × 23 array. (R. B. Hoover, Marshall Space Flight Center)

On the title pages: Aerial photograph of the Sinai Peninsula made by Gemini spacecraft. (NASA)

Included in this Dictionary are definitions which have been published previously in the following works: P. B. Jordain, *Condensed Computer Encyclopedia*, Copyright © 1969 by McGraw-Hill, Inc. All rights reserved. J. Markus, *Electronics and Nucleonics Dictionary*, 4th ed., Copyright © 1960, 1966, 1978 by McGraw-Hill, Inc. All rights reserved. J. Quick, *Artists' and Illustrators' Encyclopedia*, Copyright © 1969 by McGraw-Hill, Inc. All rights reserved. *Blakiston's Gould Medical Dictionary*, 3d ed., Copyright © 1956, 1972 by McGraw-Hill, Inc. All rights reserved. T. Baumeister and L. S. Marks, eds., *Standard Handbook for Mechanical Engineers*, 7th ed., Copyright © 1958, 1967 by McGraw-Hill, Inc. All rights reserved.

In addition, material has been drawn from the following references: R. E. Huschke, *Glossary of Meteorology*, American Meteorological Society, 1959; *U.S. Air Force Glossary of Standardized Terms*, AF Manual 11-1, vol. 1, 1972; *Communications-Electronics Terminology*, AF Manual 11-1, vol. 3, 1970; W. H. Allen, ed., *Dictionary of Technical Terms for Aerospace Use*, 1st ed., National Aeronautics and Space Administration, 1965; J. M. Gilliland, *Solar-Terrestrial Physics: A Glossary of Terms and Abbreviations*, Royal Aircraft Establishment Technical Report 67158, 1967; *Glossary of Air Traffic Control Terms*, Federal Aviation Agency; *A Glossary of Range Terminology, White Sands Missile Range, New Mexico*, National Bureau of Standards, AD 467-424; *A DOD Glossary of Mapping, Charting and Geodetic Terms*, 1st ed., Department of Defense, 1967; P. W. Thrush, comp. and ed., *A Dictionary of Mining, Mineral, and Related Terms*, Bureau of Mines, 1968; *Nuclear Terms: A Glossary*, 2d ed., Atomic Energy Commission; F. Casey, ed., *Compilation of Terms in Information Sciences Technology*, Federal Council for Science and Technology, 1970; *Glossary of Stinfo Terminology*, Office of Aerospace Research, U.S. Air Force, 1963; *Naval Dictionary of Electronic, Technical, and Imperative Terms*, Bureau of Naval Personnel, 1962; *ADP Glossary*, Department of the Navy, NAVSO P-3097.

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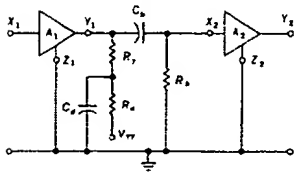
residual stress field *See* ambient stress field. { rə'zij·ə·wəl 'stres ˌfēld }
residual swelling [GEOL] The difference between the original prefreezing level of the ground and the level reached by the settling after the ground is completely thawed. { rə'zij·ə·wəl 'swel·iŋ }
residual tack *See* aftertack. { rə'zij·ə·wəl 'tak }
residual valley [GEOL] An intervening trough between uplifted mountains. { rə'zij·ə·wəl 'val·ē }
residual vibration *See* zero-point vibration. { rə'zij·ə·wəl vī'brā·shən }
residual voltage [ELEC] Vector sum of the voltages to ground of the several phase wires of an electric supply circuit. { rə'zij·ə·wəl 'vōl·tij }
residual volume [PHYSIO] Air remaining in the lungs after the most complete expiration possible; it is elevated in diffuse obstructive emphysema and during an attack of asthma. Also known as residual air. { rə'zij·ə·wəl 'väl·yəm }
residuary resistance [NAV ARCH] The sum of wavemaking resistance and eddy resistance opposing the motion of a ship through the water; the resistance which remains when frictional resistance is subtracted from total fluid resistance or drag. { rə'zij·əˌwerē ri'zis·təns }
residue [CHEM ENG] **1.** The substance left after distilling off all but the heaviest components from crude oil in petroleum refinery operations. Also known as bottoms; residuum. **2.** Solids deposited onto the filter medium during filtration. Also known as cake; discharged solids. [GEOL] The in-place accumulation of rock debris which remains after weathering has removed all but the least soluble constituent. [MATH] The residue of a complex function $f(z)$ at an isolated singularity z_0 is given by $(1/2\pi i)\int f(z)dz$ along a simple closed curve interior to an annulus about z_0; equivalently, the coefficient of the term $(z - z_0)^{-1}$ in the Laurent series expansion of $f(z)$ about z_0. { 'rez·əˌdü }
residue check *See* modulo N check. { 'rez·əˌdü ˌchek }
residue class [MATH] A set of numbers satisfying a congruency relation. { 'rez·əˌdü ˌklas }
residue class ring *See* quotient ring. { 'rez·əˌdü ˌklas ˌriŋ }
residue system [COMPUT SCI] A number system in which each digit position corresponds to a different radix, all pairs of radices are relatively prime, and the value of a digit with radix r for an integer A is equal to the remainder when A is divided by r. { 'rez·əˌdü ˌsis·təm }
residue theorem [MATH] The value of the integral of a complex function, taken along a simple closed curve enclosing at most a finite number of isolated singularities, is given by $2\pi i$ times the sum of the residues of the function at each of the singularities. { 'rez·əˌdü ˌthir·əm }
residuum *See* residual oil; residue. { rə'zij·ə·wəm }
resilience [COMPUT SCI] The ability of computer software to be used for long periods of time. [MECH] **1.** Ability of a strained body, by virtue of high yield strength and low elastic modulus, to recover its size and form following deformation. **2.** The work done in deforming a body to some predetermined limit, such as its elastic limit or breaking point, divided by the body's volume. { rə'zil·yəns }
resin [ORG CHEM] Any of a class of solid or semisolid organic products of natural or synthetic origin with no definite melting point, generally of high molecular weight; most resins are polymers. { 'rez·ən }
resin-anchored bolt [ENG] A bolt is anchored in the resin placed at the back of the hole in a glass cartridge, which ruptures when the bolt is inserted. { 'rez·ən ˌaŋ·kərd 'bōlt }
resin duct [BOT] A canal (intercellular space) lined with secretory cells that release resins into the canal; common in gymnosperms. { 'rez·ən ˌdəkt }
resin emulsion [MATER] Stable emulsion of a resin in a solvent carrier, such as the latex emulsions used in water-based latex paints. { 'rez·ən iˌməl·shən }
resin finish [TEXT] A synthetic-resin finish produced by impregnating the fiber with resin and then baking it. { 'rez·ən ˌfin·ish }
resin-in-pulp ion exchange [CHEM ENG] Combination of coarse anion-exchange resin with a slurry of finely ground uranium ore in an acid-leach liquor. { 'rez·ən in 'pəlp 'ī,ən iks,chānj }
resinite [GEOL] A variety of exinite composed of resinous compounds, often in elliptical or spindle-shaped bod { 'rez·ənˌīt }
resin of copper *See* cuprous chloride. { 'rez·ən əv 'käp·ə
resinography [CHEM] Science of resins, polymers, plast and their products; includes study of morphology, struct and other characteristics relatable to composition or treatm { ˌrez·ən'äg·rə·fē }
resinoid [ORG CHEM] A thermosetting synthetic resin ei in its initial (temporarily fusible) or in its final (infusible) st { 'rez·ənˌȯid }
resinoid wheel [DES ENG] A grinding wheel bonded wi synthetic resin. { 'rez·ənˌȯid 'wēl }
resinol [MATER] Heat- and oxidation-sensitive, benzene-s uble coal tar fraction containing phenols; insoluble in li petroleum. { 'rez·ənˌȯl }
resin opal [MINERAL] A wax-, honey-, or ocherous-yell variety of common opal with a resinous luster or appearan { 'rez·ən 'ō·pəl }
resinous cement [MATER] An acid-proof cement wit base of synthetic resin. { 'rez·ən·əs si'ment }
resinous coal [GEOL] Coal in which large proportions resinous material are contained in the attritus. { 'rez·ən· 'kōl }
resinous luster [GEOL] The luster on the fractured surfac of certain minerals (such as opal, sulfur, amber, and sphaleri and rocks (such as pitchstone) that resemble the appearance resin. { 'rez·ən·əs 'ləs·tər }
resin roof bolting [MIN ENG] The fixation of metal roof bo in rock holes with a bonding resin. { 'rez·ən 'rüf ˌbōlt·iŋ }
resin tin *See* rosin tin. { 'rez·ən ˌtin }
resist [GRAPHICS] A protective layer applied to the imag or other parts of a plate, to protect that portion of the met from the action of an etching bath or a sandblasting operatio [MATER] An acid-resistant nonconducting coating used to pr tect desired portions of a wiring pattern from the action of t etchant during manufacture of printed wiring boards. [ME An insulating material, for example lacquer, applied to th surface of work to prevent electroplating or electrolytic actio at the coated area. Also known as stopoff. { ri'zist }
resistance [ACOUS] *See* acoustic resistance. [FL MECH *See* fluid resistance. [ELEC] **1.** The opposition that a devic or material offers to the flow of direct current, equal to th voltage drop across the element divided by the current throug the element. Also known as electrical resistance. **2.** In a alternating-current circuit, the real part of the complex imped ance. [MECH] In damped harmonic motion, the ratio of th frictional resistive force to the speed. Also known as dampin coefficient; damping constant; mechanical resistance. { ri'zis təns }
resistance box [ELEC] A box containing a number of pre cision resistors connected to panel terminals or contacts so tha a desired resistance value can be obtained by withdrawing plugs (as in a post-office bridge) or by setting multicontact switches. { ri'zis·təns ˌbäks }
resistance brazing [MET] Brazing employing the heat de veloped by an electric current, the joint being part of the electric circuit. { ri'zis·təns ˌbrāz·iŋ }
resistance bridge *See* Wheatstone bridge. { ri'zis·təns ˌbrij }
resistance-capacitance circuit [ELEC] A circuit which has a resistance and a capacitance in series, and in which inductance is negligible. Abbreviated *R-C* circuit. { ri'zis·təns kə'pas·əd·əns ˌsər·kət }
resistance-capacitance constant [ELEC] Time constant of a resistive-capacitive circuit, equal in seconds to the resistance value in ohms multiplied by the capacitance value in farads. Abbreviated *R-C* constant. { ri'zis·təns kə'pas·əd·əns ˌkän stənt }
resistance-capacitance coupled amplifier [ELECTR] An amplifier in which a capacitor provides a path for signal currents from one stage to the next, with resistors connected from each side of the capacitor to the power supply or to ground; it can amplify alternating-current signals but cannot handle small changes in direct currents. Also known as *R-C* amplifier; *R-C* coupled amplifier; resistance-coupled amplifier. { ri'zis· təns kə'pas·əd·əns ˌkəp·əld 'am·plə,fī·ər }
resistance-capacitance network [ELEC] Circuit containing resistances and capacitances arranged in a particular manner to perform a specific function. Abbreviated *R-C* network. { ri'zis·təns kə'pas·əd·əns 'netˌwərk }

RESISTANCE-CAPACITANCE COUPLED AMPLIFIER



Circuit diagram of resistance-capacitance coupled amplifier. Amplifier stages A_1 and A_2 have inputs X_1 and X_2 and outputs Y_1 and Y_2. Y_1 is coupled to X_2 by blocking capacitor C_b. For vacuum-tube amplifier, Z_1 and Z_2 = cathode of A_1 and A_2; R_b = grid-leak resistor; R_y = plate resistor; V_{YY} = plate supply voltage. Decoupling filter R_d and C_d is used for compensation.